



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/766,321

01/29/2004

Masayasu Kato

14-025

1222

23400

7590

05/17/2005

POSZ LAW GROUP, PLC
12040 SOUTH LAKES DRIVE
SUITE 101
RESTON, VA 20191

EXAMINER

BARBEE, MANUEL L

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

ABZ

Office Action Summary	Application No. 10/766,321	Applicant(s) KATO ET AL.	
	Examiner Manuel L. Barbee	Art Unit 2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/29/04, 9/16/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "10" has been used to designate both the control circuit in Figure 1 and the intermediate connector in Figure 3, as shown on page 10, lines 22 and 23. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

On page 1, line 8, delete "30" and insert --31--.

The specification should be amended to refer to the correct reference character in accordance with any drawing changes made to overcome the objection to the drawings above.

Appropriate correction is required.

Claim Objections

3. Claims 4, 7, 12 and 15 objected to because of the following informalities:

Claims 4 and 12 both refer to "the warning device". Claim 3 should be amended to depend from claim 2 and claim 11 should be amended to depend from claim 10 to correct the lack of antecedent basis for "the warning device" found in claims 4 and 12, respectively.

Claims 7 and 15 refer to "the pulse signal" in the last line of the claim. The claim should be amended to refer to "the digital signal that is maintained at a fixed, ON state signal level", as shown in lines 5 and 6 of the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Coverdill (US Patent No. 5,848,365).

With regard detecting a change from a normal state to an abnormal state of an electrical signal input via a signal wire to a signal abnormality detection portion from a signal generation portion, as shown in claim 1, Coverdill teaches a data logging unit that detects events such as ECU battery voltage low or high or intermittent power or a voltage problem with a discrete sensor (col. 1, lines 39-70; col. 6, line 50 - col. 7, line

18). With regard to a holding portion for latching the detection result, as shown in claim 1, Coverdill teaches storing data measured before and after the event (col. 6, lines 50-57).

With regard to determining the signal to be normal when it is in the fixed ON state and abnormal when it is interrupted, as shown in claim 7, Coverdill teaches detecting when battery voltage is low (col. 6, line 58 - col. 7, line 18). With regard to determining that the normal state is when the analogue signal is being input continuously and the abnormal state is when the signal is interrupted, as shown in claim 8, Coverdill teaches determining an even when there is intermittent battery power (col. 6, lines 58-67).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coverdill in view of Andersen (US Patent No. 3,601,655).

Coverdill teaches all the limitations of claim 1 upon which claims 2-4 depend. Further, with regard to an output circuit for outputting the latch signal and an external connection unit, as shown in claims 3 and 4, Coverdill teaches connecting an external computer to a data port (col. 2, lines 34-40). Coverdill does not teach a warning device, as shown in claims 2 and 4. Andersen teaches providing a signal warning in the event of circuit discontinuity (Abstract). It would have been obvious to one of ordinary skill in

the art at the time the invention was made to modify the diagnostic system, as taught by Coverdill, to include a warning device, as taught by Andersen, because then critical events would have been communicated to the user immediately.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coverdill in view of Asada (US Patent No. 5,629,606).

Coverdill teaches all the limitations of claim 1 upon which claim 5 depends. Coverdill does not teach that the signal accords with a determined communication protocol or that signal abnormality is determined when protocol is interrupted, as shown in claim 5. Asada teaches detecting whether a transmitting wire is disconnected when an output does not change although an ECU is sending a switching command (col. 2, lines 24-65; col. 7, lines 22-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the diagnostic system, as taught by Coverdill, to include detecting abnormality when a communication protocol is interrupted, as taught by Asada, because then breaks in communication lines would have been detected.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coverdill in view of Masuda (US Patent No. 5,568,529).

Coverdill teaches all the limitations of claim 1 upon which claim 6 depends. Coverdill does not teach that the signal is a digital pulse signal or that signal abnormality is determined when pulse signal is interrupted, as shown in claim 6. Masuda teaches determining that a signal is disconnected when a pulse signal is interrupted (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention

was made to modify the diagnostic system, as taught by Coverdill, to include detecting abnormality when a pulse signal is interrupted, as taught by Masuda, because then breaks in digital pulse signal lines would have been detected.

10. Claims 9, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coverdill in view of White et al. (US Patent No. 6,745,153).

With regard detecting a change from a normal state to an abnormal state of an electrical signal input via a signal wire to a signal abnormality detection portion from a signal generation portion, as shown in claim 9, Coverdill teaches a data logging unit that detects events such as ECU battery voltage low or high or intermittent power or a voltage problem with a discrete sensor (col. 1, lines 39-70; col. 6, line 50 - col. 7, line 18). With regard to a holding portion for latching the detection result, as shown in claim 9, Coverdill teaches storing data measured before and after the event (col. 6, lines 50-57). Coverdill does not teach that the signal is input wirelessly, as shown in claim 9.

White et al. teach transmitting performance data to an offboard network wirelessly (col. 5, lines 10-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the diagnostic system, as taught by Coverdill, to include transmitting data offboard wirelessly, as taught by White et al., because then manufacturers would have been able to track field behavior and obtain more accurate information for determining the presence of a fault condition (White et al., col. 1, lines 19-45).

With regard to determining the signal to be normal when it is in the fixed ON state and abnormal when it is interrupted, as shown in claim 15, Coverdill teaches detecting

when battery voltage is low (col. 6, line 58 - col. 7, line 18). With regard to determining that the normal state is when the analogue signal is being input continuously and the abnormal state is when the signal is interrupted, as shown in claim 16, Coverdill teaches determining an even when there is intermittent battery power (col. 6, lines 58-67).

11. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coverdill in view of White et al. as applied to claim 9 above, and further in view of Andersen.

Coverdill and White et al. teach all the limitations of claim 9 upon which claims 10-12 depend. Further, with regard to an output circuit for outputting the latch signal and an external connection unit, as shown in claims 11 and 12, Coverdill teaches connecting an external computer to a data port (col. 2, lines 34-40). Coverdill and White et al. do not teach a warning device, as shown in claims 10 and 12. Andersen teaches providing a signal warning in the event of circuit discontinuity (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the diagnostic combination, as taught by Coverdill and White et al., to include a warning device, as taught by Andersen, because then critical events would have been communicated to the user immediately.

12. Claim 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Coverdill in view of White et al. as applied to claim 9 above, and further in view of Asada.

Coverdill and White et al. teach all the limitations of claim 9 upon which claim 13 depends. Coverdill and White et al. do not teach that the signal accords with a determined communication protocol or that signal abnormality is determined when

protocol is interrupted, as shown in claim 13. Asada teaches detecting whether a transmitting wire is disconnected when an output does not change although an ECU is sending a switching command (col. 2, lines 24-65; col. 7, lines 22-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the diagnostic combination, as taught by Coverdill and White et al., to include detecting abnormality when a communication protocol is interrupted, as taught by Asada, because then breaks in communication lines would have been detected.

13. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coverdill and White et al. as applied to claim 9 above, and further in view of Masuda.

Coverdill and White et al. teach all the limitations of claim 9 upon which claim 14 depends. Coverdill and White et al. do not teach that the signal is a digital pulse signal or that signal abnormality is determined when pulse signal is interrupted, as shown in claim 6. Masuda teaches determining that a signal is disconnected when a pulse signal is interrupted (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the diagnostic combination, as taught by Coverdill and White et al., to include detecting abnormality when a pulse signal is interrupted, as taught by Masuda, because then breaks in digital pulse signal lines would have been detected.

Conclusion

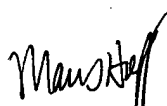
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manuel L. Barbee whose telephone number is 571-272-2212. The examiner can normally be reached on Monday-Friday from 8-4:30.

Art Unit: 2857

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on 571-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mlb
May 11, 2005


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800